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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,994	03/21/2005	Minobu Mizuno	10517/270	6303

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EXAMINER	
PHAN, HAU VAN	

ART UNIT	PAPER NUMBER
3618	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/527,994	MIZUNO, MINOBU	
	Examiner	Art Unit	
	Hau V. Phan	3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment

1. The amendment filed on 8/25/2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 13, 16-18, 20-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Riemer et al. (5,641,031).

Riemer et al. in figures 2a-2b, disclose a fuel cell equipped vehicle (1) comprising a fuel cell (15) that generates electric power through a reaction between a fuel gas and an oxidizing gas. Riemer et al. also disclose a hydrogen tank (32) that stores a hydrogen to be supplied to the fuel cell, a fuel cell accessory or auxiliary units that operates when the fuel cell generates electric power, a storage battery that stores electric energy and an electric power control unit (14) that controls supply of electric power regarding the fuel cell and the storage battery, wherein the fuel cell, the hydrogen tank, the fuel cell accessory, the storage battery, and the electric power control unit are disposed below a floor of a passenger compartment of the vehicle (as shown in figure 2a).

15. (New) The fuel cell equipped vehicle according to claim 13, wherein the fuel gas tank, the fuel cell, the electric power control unit, and the storage battery are arranged in that written order in a longitudinal direction relative to the vehicle.

Regarding claim 16, Riemer et al. disclose the fuel cell accessory, which is disposed at one or both of a right side and a left side of the fuel cell (see figure 2b).

Regarding claim 17, Riemer et al. disclose an upper surface of the fuel cell, an upper surface of the fuel gas tank, an upper surface of the fuel cell accessory, an upper surface of the storage battery, and an upper surface of the electric power control unit are at substantially equal heights (see figure 2a).

Regarding claim 18, Riemer et al. disclose the fuel cell, the fuel gas tank, the fuel cell accessory, the storage battery, and the electric power control unit that are mounted on an upper portion of a generally flat portion of a body frame of the vehicle which extends between a front wheel and a rear wheel (as shown in figure 2b).

Regarding claim 20, Riemer et al. disclose a radiator (33) that radiates heat from a cooling water for cooling the fuel cell, and that is disposed on a portion of a body frame of the vehicle which extends between a central portion of the body frame and a forward portion of the body frame.

Regarding claim 21, Riemer et al. disclose the radiator that is disposed so as to lie between two frame rails of the body frame.

Regarding claim 22, Riemer et al. disclose at least one of a front wheel driving electric motor (13) and a rear wheel-driving electric motor (13, noticed col. 3, lines 1-3 disclose the motor can be provided on the front and rear axles), wherein the electric

power control unit controls supply of electric power from the fuel cell and the storage battery to the at least one of the front wheel-driving electric motor and the rear wheel-driving electric motor.

Regarding claim 23, Riemer et al. disclose a gas pipe that supplies the fuel gas from the fuel gas tank to the fuel cell and an electrical wire that conducts electric power from the fuel cell and the storage battery to the electric power control unit, wherein the gas pipe is provided in one of a right-side portion and a left side portion of the vehicle, and the electrical wire is provided in another one of the right-side portion and the left-side portion of the vehicle (from figure 1 of the invention showing that the electric cable is on the right side only and the gas pipe is on the left side only, but the claim recite the electric cable located on both sides).

Regarding claim 24, Riemer et al. disclose a coolant circulator device that circulates a coolant for cooling the fuel cell, wherein a coolant circulation path of the coolant circulator device and the gas pipe are provided in one of the right-side portion and the left-side portion of the vehicle, and the electrical wire is provided in another one of the right-side portion and the left-side portion of the vehicle.

Regarding claim 25, Riemer et al. disclose a front wheel-driving electric motor (13) that drives front wheels (10) and a rear wheel-driving electric motor (13, Col. 3, lines 1-3) that drives rear wheels (10), wherein the fuel cell, the hydrogen gas tank, the fuel cell accessory, the storage battery, and the electric power control unit are arranged between the front wheel-driving electric motor and the rear wheel-driving electric motor.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riemer et al. (5,641,031) as applied to claim 13 above, and further in view of Nagura et al. (6,648,085).

Riemer et al. disclose the fuel cell, the fuel tank, the fuel accessory, the storage battery and the electric power control unit, but fail to show all of the them, which are disposed in a space formed between a right side frame and a left side frame of the vehicle in a longitudinal direction.

Nagura et al. in figures 1-4, teach fuel cell powered four wheel vehicle comprising a fuel cell system, which is positioned in a space between left and right side frames (12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fuel cell equipped vehicle of Riemer et al. with the fuel cell powered four wheels vehicle having a fuel cell system, which is positioned in a space between left and right frame as taught by Nagura et al. in order to keep the weight of the chassis of the vehicle in balance.

6. Claims 14-15 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riemer et al. (5,641,031).

Reimer et al. disclose the hydrogen gas tank, the fuel cell, the storage battery, and the electric power control unit, but fail to show each of them are arranged in that written order in a longitudinal direction relative to the vehicle. It would have been obvious to one having ordinary skill in the art at the time the invention was made to arranged in the written order in the longitudinal direction, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse,* 86 USPQ 70.

Response to Arguments

7. Applicant's arguments filed 8/25/2006 have been fully considered but they are not persuasive. In response to applicant's remark that Riemer et al. do not disclose a reformerless fuel cell vehicle and hydrogen tank as recited in the present claims. The examiner disagrees, because Riemer et al. disclose a hydrogen reservoir or a hydrogen tank (32) that stores a hydrogen to be supplied to the fuel cell.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau V. Phan whose telephone number is 571-272-6696. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on 571-272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hau V Phan
Primary Examiner
Art Unit 3618

Hau Phan
10/3/06